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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/736,595

Applicant(s)

ARORA ET AL.

Examiner

VIREN THAKUR

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Objections*

1. The amended claims recite two claims with the number 9. It appears that claim 19 was inadvertently numbered claim 9.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims 1, 5-10, 13-14, 18-23, 25 and 27-28 rejected under 35 U.S.C. 103(a) as being unpatentable over Polifka (US 2002/0027173 A1), and further in view of Dantzig (US 2282708), Moir (US 1766447) and Schytill (US 2857683).**

The reference to Polifka is taken as cited in the prior Office Action, mailed June 14, 2007. As previously discussed, Polifka teaches a system that can be used for comminuting, heating and drying and grinding into a powder agricultural products, such as grains, plants and herbs (see paragraph 0044).

Claims 1 and 14 differ from Polifka in specifically reciting using the method for processing green coffee beans.

Dantzig is relied on to teach that it has been conventional in the art to apply a simultaneous process for roasting and grinding coffee beans into a powder (Figure 2 and Page 3, left hand column, lines 36-75). Moir is similarly relied on to teach simultaneous grinding and roasting of green coffee beans (Page 1, lines 84-90). Thus, the art teaches that it is advantageous to simultaneously roast and grind green coffee beans. In addition, Schytil teaches using a conical enclosure for fluidizing coffee beans for the purpose of roasting the coffee beans. Schytil teaches that the result of the invention is more controlled roasting of the coffee beans (column 1, lines 47-61 and column 2, lines 4-14). Schytil further teaches that if the velocity of the heated air was increased, that the coffee beans would be ground while being heated (Column 4, lines 5-10). The prior art further teaches that it has been conventional to fluidize green coffee beans for the purpose of roasting in a conical shaped enclosure. If the velocity of the heated air is increased, then a grinding action will also simultaneously take place in the fluidized bed roasting process.

Since Polifka teaches the simultaneous heating, drying and pulverizing of agricultural products and since the prior art taken as a whole teaches that this concept has been well known to be applied to process green coffee beans, it would have been obvious to one having ordinary skill in the art to roast, dry and pulverize green coffee beans in the method/apparatus of Polifka. It is further noted that the references Schytil, Dantzig and Moir recognized using specific temperatures to achieve the desired roasting and thus aroma and flavor to be imparted to the coffee grind. Although Schytil states that increased velocities are not necessarily desired in his invention, the reference still teaches that if one wanted to impart a grinding action, such as for the purpose of simultaneous grinding and roasting (as taught by Dantzig and Moir) that it would have been obvious to increase the velocity of the heated air for this purpose. It is further noted that Schytil teaches roasting coffee beans at the instantly claimed temperature (column 3, lines 53-56) for the purpose of achieving the desired taste and thus the art recognized that specific conditions are required to achieve the desired properties of the roasted and ground coffee beans.

**5. Claim 2 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1, 5-10, 13-14, 18-23, 25 and 27-28, above in paragraph 4 and further in view of Pultinas, Jr (U.S. 4,591,508).**

With regard to Claims 2 and 15, Polifka in view of the cited prior art teach a method for roasting, drying and grinding coffee beans, as discussed above. Since the prior art thus discloses drying it is obvious that drying includes removing the moisture content from within a foodstuff. Nevertheless, it is also obvious that although a range of between 3 and 5 percent has not been explicitly disclosed, such a range can be obtained depending on the temperature of the compressed air as well as the resident time within the chambers.

While it is well known to reduce moisture during drying and roasting, claims 2 and 15 differ from the combination of the prior art in reciting wherein said moisture content after roasting, drying and grinding to be between 3 and 5 percent.

With regard to Claims 2 and 15, Pultinas Jr. discloses a process for roasting and grinding green coffee beans (Column 3, Line 39-57) wherein said processed coffee beans contain moisture content of between 3 and 6 percent, which covers the range 3 to 5%. Pultinas Jr. teaches the necessity of maintain a moisture content within this range for the purpose of preventing staleness when brewed and brittleness during handling and packaging (Column 4, Line 66 to Column 5, Line 6).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Polifka to ensure a moisture content of between 3 and 6 percent, as taught by Pultinas Jr. for the purpose of ensuring the stability and freshness of the ground coffee product. Such a modification ensures that the ground coffee is not stale when brewed or brittle during process handling and packaging.

**6. Claims 3, 4, 11, 16, 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1, 5-10, 13-14, 18-23, 25 and 27-28, above in paragraph 4, and further in view of Reeves et al. (U.S. 3,821,430).**

With regard to Claims 3, 4, 11, 16 and 17, Polifka in view of the prior art disclose a method for roasting, drying and grinding coffee beans, as discussed above. Since Polifka teaches grinding, it is obvious to a person having ordinary skill in the art that the particle size of the ground coffee beans depends on the resident time within the grinding chamber: a finer coffee bean requires a longer resident time while a coarser coffee bean requires a shorter resident time. Additionally, this also depends on the moisture content of the green coffee bean and the temperature used for roasting and drying. Since Polifka teaches discharging a foodstuff from the lower orifice of the conical chamber, it would have been obvious that the discharge requires collection in some kind of container.

Claims 3, 4, 16 and 17 differ from Polifka and the art taken as a whole in specifically reciting a particle size of between 0.1 to 1 mm or a particle size of between 0.1 to 4 mm. Claims 11 and 24 differ from prior art combination in specifically reciting screening the discharging coffee beans for particle size; re-introducing coffee beans into the upper cylindrical chamber to further reduce the particle size of said coffee beans

Reeves et al. discloses a process for producing instant coffee composed of two different coarse grains using a freeze dried component and a roasted agglomerate. Reeves et al. teaches using sieves (Column 2, Line 11-20) and a recycling stream to further reduce the particle size of the coffee bean extracts (Column 2, Line 50 to 54) and measures the particle size using 12, 20 and 40 mesh screens (Column 6, Line 21-30). This corresponds to particle sizes of between 0.42 mm and 0.84 mm, which is within the range of 0.1 mm to 1 mm and the range of 0.1 mm to 4 mm. The invention of Reeves et al. further discloses that said particle size should be a substantial majority, approximately 70 percent (Column 6, Line 25) or at least the particle size should be consistent within the agglomerate to within 50 percent (Column 6, Line 30). Additionally, Reeves et al. teaches recycling coarser particulate material to ensure the reduction of undesired particle sizes of ground coffee (Column 6, Line 31-38). Such a process produces a soluble coffee product that provides an agglomerate of freeze dried component with a roasted component that has the strength to withstand abrasion and segregation and therefore preserving the blend of a quality extract with more economical coffee beans (Column 1, Line 11-16 and Line 32-36).

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Reeves et al. also teaches that it has been conventional in the art to grind coffee beans to a particular particle size and recycle coffee beans or coffee grind to further reduce the particle size.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Polifka in view of the prior art to grind the coffee bean to within a particle size of 0.4 mm to 0.8 mm as taught by Reeves et al. for the purpose of ensuring that if blended with other coffee beans, such a blend has the strength to withstand abrasion and segregation and therefore preserving the blend of a quality extract with more economical coffee beans. Such a modification provides a quality tasting but more economical coffee bean. Nevertheless, it is further obvious that the particle size of the ground coffee bean is wholly dependent on the resident time within the grinding chamber, as well as the preferences of the user: a finer coffee bean requires a longer resident time while a coarser coffee bean requires a shorter resident time. Additionally, Reeves et al. further teaches that it would have been obvious that if a consistent coffee grind is required, the finer coffee grind will be sieved out, while the coarser coffee grind will be recycled back to the grinding chamber for further reduction of the particle size. Such a modification would have ensured the consistency of the particle size of the coffee grind, and thus a quality tasting product.

**7. Claims 2-4, 11, 12, 15-17, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1, 5-10, 13-14, 18-23, 25 and 27-28, above in paragraph 4, and in further view of Ruiz-Avila (WO 00/01256).**

With regard to Claims 2-4, 11, 12, 15-17, 24 and 26, Polifka in view of the prior art, disclose a method for roasting, drying and grinding coffee beans, as discussed above. Since Polifka teaches grinding, it is obvious to a person having ordinary skill in the art that the particle size of the ground coffee beans depends on the resident time within the grinding chamber: a finer coffee bean requires a longer resident time while a coarser coffee bean requires a shorter resident time. Additionally, this also depends on the moisture content of the green coffee bean and the temperature used for roasting and drying. Since Polifka teaches discharging a foodstuff from the lower orifice of the conical chamber, it would have been obvious that the discharge requires collection in some kind of container.

Claims 2 and 15 differ from the prior art combination in the particular moisture content of the dried, roasted and ground coffee beans. Claims 3-4 and 16-17 differ from the prior art combination in the particular particle size of the ground coffee beans. Claims 11, 24 and 26 differ from the prior art combination in specifically reciting screening the discharged material for a specified particle size, collecting said material in a container and recycling said material not having the correct particle size back to the grinding chamber and further discharging said material using a rotary valve to discharge material into a container.

Ruiz-Avila teaches a method of comminuting (Figure 1A, Item 11; Page 4 Line 32 to Page 5, Line 3) and drying plant material using heated air (Page 4, Line 11-13) that passes into a conical chamber (Figure 1A, Item 18) further comprising an exhaust pipe (Figure 1A, Item 19 and 20) and a rotary valve (Figure 2, Item 47) for discharging said material. Ruiz-Avila further discloses that said plant material will have a predetermined particle size and moisture content upon discharging from the system (Page 1, Line 21-24). Additionally, Ruiz-Avila teaches comminuting said plant material (Figure 2, Item 34) and subsequently aerosolizing said material in a conical chamber using cyclonic air (Figure 2, Item 38) and then drying in a separate chamber (Figure 2, Item 42); wherein oversized aerosolized particles that exceed the specified particle size exit the drying chamber through a sealed rotary valve (Figure 2, Item 49; Page 6, Line 14-16) and are subsequently re-sent through the feed for the purpose of decreasing the particle size (Page 6, Line 16-18). It should be noted that although Ruiz-Avila does not specify the range of moisture within the plant material or the size of the particle, these are physical properties that are dependent on the speed and temperature of the air as well as the resident time within the drying and grinding chamber. However, Ruiz-Avila does teach specifying a desired particle size and moisture content that should be attained for the finished product.

Therefore, it would have been obvious to a person having ordinary skill in the art to modify Polifka to include a sealed rotary valve for discharging and a means for selectively recycling through the process material of insufficient particle size, as taught by Ruiz-Avila for the purpose of ensuring a ground material having a consistent texture. Recycling material of undesired particle size maximizes the efficiency of the grinding process. Such a modification would have been obvious to the ordinarily skilled artisan since it



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has been well known to use a recycling means to further grind and heat a product for the purpose of achieving the desired particle size and moisture content while also resulting in improved consistency in the ground product. Therefore, to recycle the coffee beans in the method/apparatus of Polifka would have been obvious to the ordinarily skilled artisan for the purpose of achieving the desired particle size and moisture content depending on the desired type of coffee ground coffee.

**8. Claims 12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 3, 4, 11, 16, 17 and 24, above in paragraph 6, and further in view of Eichner (U.S. 2004/0142078 A1).**

With regard to Claims 12 and 26, Polifka in view of the prior art discloses a method for heating, drying and grinding coffee beans to a specified particle size using heated and compressed cyclonic air flow, as discussed above.

Claims 12 and 26 differ from the prior art combination in specifically reciting wherein the lower enclosure communicates with a rotary valve to permit the discharge of particulate product from the lower orifice of the conical chamber, in an air-tight manner.

Eichner discloses a method of roasting coffee wherein said coffee is roasted in a chamber and subsequently collected in a product container (Figure 1, Item 32). Eichner further discloses a valve that permits the discharge of the roasted coffee into said container (Figure 1, Item 30). Eichner further teaches the use of apertures at the outlet of the roasted coffee bean to release said coffee bean (Paragraph 0036; Figure 3, Item 18, Item 20). Additional Eichner discloses the use of a transfer valve (Figure 1, Item 30) which is connected through a pressure release valve (Paragraph 0038; Figure 1, Item PSV6) for the purpose of discharging roasted beans from the outlet into a finished product container (Paragraph 0037). Providing a pressure release ensures that upon opening the valve, the product is discharged into a container. Nevertheless, on subsequent closure it is obvious that said valve has an air tight closure.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Polifka to include an air-tight valve for the release of the ground coffee

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beans into a container, as taught by Eichner for the purpose of providing a means of discharging said coffee beans through the use of pressure release valves. Nevertheless, this also ensures an air-tight seal since it is known that pressure release valves allow for unidirectional flow of air, thus preventing air from entering the chamber. It is interpreted that is, therefore an air-tight valve. It is further obvious, however, that the choice of valves need not be only a rotary valve provided that the choice of valves allows discharging through the use of pressure release. Additionally, such a modification increases the profitability of roasting, drying and grinding coffee beans since the invention as disclosed allows for the continuous roasting, drying, grinding and discharging of coffee beans into containers, which increases throughput and production of ground coffee.

### ***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Omum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. **Claims 1, 5, 6, 9 and 14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1, 10, 11, 14 of copending Application No. 11/153435 in view of Polifka (US 2002/0027173 A1), Moir (US 1766447) and Schytil (US 2857683).**

Claims 1, 10, 11 and 14 of the copending application disclose the granulation process, including introducing compressed air into a vortex grinding apparatus having a truncated conical section, wherein

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the introduced air travels along a downward path through the apparatus, including the conical section, to a lower end thereof, and the air reaching the lower end flows back up and exits the enclosure via an exhaust outlet. The copending claims further disclose introducing a food product which becomes entrained in the air traveling downward through the enclosure and discharging of the granular product from the lower end of the apparatus. The copending claims are silent in the particular type of grain or bean, specifically, a green coffee bean and the steps of simultaneously roasting, grinding and drying the green coffee bean. However, Polifka teaches a truncated conical vortex grinding apparatus/method and Moir teaches that it has been well known in the art to simultaneously roast and grind coffee beans (Page 1, Lines 84-86). Schytill teaches a fluidized roasting process wherein an increased velocity would result in a grinding action on the coffee beans (column 4, lines 2-10). Therefore, it would have been obvious to use green coffee beans, since Polifka teaches such an apparatus/method that can simultaneously roast, grind and dry agricultural grains and since Moir and Schytill teach that it has been known in the art to simultaneously roast and grind coffee beans.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

**11. Claims 1, 5, 9, 10, 14 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6, 11, 12 and 16 of copending Application No. 11/152387 in view of Polifka (US 2002/0027173 A1), Moir (US 1766447), Schytill (US 2857683) and Martin et al. (Elsevier).**

The claims of the copending application disclose the granulation process, including introducing compressed air into a vortex grinding apparatus having a truncated conical section, wherein the introduced air travels along a downward path through the apparatus, including the conical section, to a lower end thereof, and the air reaching the lower end flows back up and exits the enclosure via an exhaust outlet. The copending claims further disclose introducing a food product which becomes entrained in the air traveling downward through the enclosure and discharging of the granular product from the lower end of the apparatus. The copending claims are silent in the particular type of grain or

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bean, specifically, a green coffee bean and the steps of simultaneously roasting, grinding and drying the green coffee bean. However, Polifka teaches a truncated conical vortex grinding apparatus and Moir teaches that it has been well known in the art to simultaneously roast and grind coffee beans (Page 1, Lines 84-86). Schytill teaches a fluidized roasting process wherein an increased velocity would result in a grinding action on the coffee beans (column 4, lines 2-10). Martin et al. is relied on to teach that coffee beans have been well known to have fatty acids and oils (i.e. lipids) wherein the content in the bean is about 15 percent, such as 12.3 percent oleic acid (see page 293). Therefore, it would have been obvious to use green coffee beans, since Polifka teaches such an apparatus/method that can simultaneously roast, grind and dry agricultural grains and since Moir and Schytill teach that it has been known in the art to simultaneously roast and grind coffee beans.

This is a provisional obviousness-type double patenting rejection.

**12. Claims 1, 5-7, 9, 10, 14 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 15-21 of copending Application No. 10/963746 in view of Polifka (US 2002/0027173 A1), Moir (US 1766447), Schytill (US 2857683).**

The claims of the copending application disclose the granulation process, including introducing compressed air into a vortex grinding apparatus having a truncated conical section, wherein the introduced air travels along a downward path through the apparatus, including the conical section, to a lower end thereof, and the air reaching the lower end flows back up and exits the enclosure via an exhaust outlet. The copending claims further disclose introducing a food product which becomes entrained in the air traveling downward through the enclosure and discharging of the granular product from the lower end of the apparatus. The copending claims are silent in the particular type of grain or bean, specifically, a green coffee bean and the steps of simultaneously roasting, grinding and drying the green coffee bean. However, Polifka teaches a truncated conical vortex grinding apparatus and Moir teaches that it has been well known in the art to simultaneously roast and grind coffee beans (Page 1, Lines 84-86). Schytill teaches a fluidized roasting process wherein an increased velocity would result in a grinding action on the coffee beans (column 4, lines 2-10). It has been well known that coffee beans

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comprise moisture which upon roasting results in a lower moisture content bean. Therefore, it would have been obvious to use green coffee beans, since Polifka teaches such an apparatus/method that can simultaneously roast, grind and dry agricultural grains and since Moir and Schytil teach that it has been known in the art to simultaneously roast and grind coffee beans.

This is a provisional obviousness-type double patenting rejection.

### ***Response to Arguments***

13. As a result of the amendment the rejection of claims 1-28 under 35 U.S.C. 112, second paragraph has been withdrawn.

14. The declaration of Vijay Arora filed under 35 C.F.R. 1.132 on February 13, 2008 has been considered but is not deemed persuasive.

The declaration states that one of ordinary skill in the art would not reasonably expect that the use of an apparatus such as described in Polifka with green coffee beans would provide a dried ground coffee powder that is concurrently roasted to induce pyrolysis such that it is comparable with green coffee beans roasted and ground using conventional methods.

This argument has been considered but is not persuasive. It is noted that the prior art, as discussed above in paragraph 4, teaches that it has been well known in the art to simultaneously grind and roast coffee beans which still achieves acceptable roasted coffee beans and ground coffee. It is further noted that the claim recites wherein "at least a portion of the green coffee beans are concurrently dried, roasted to induce pyrolysis and ground." Based on this limitation, the combined teachings of the prior art would still have resulted in at least a portion of coffee beans being simultaneously dried, roasted and ground. Regardless of this limitation, the combined prior art still teaches and provides motivation for simultaneously roasting and grinding green coffee beans in a vortex such as that of Polifka. Furthermore, in the art of roasting and grinding coffee, preventing rancidity during roasting has been a well recognized problem. For instance, O'Toole et al. (US 2418275) teach that it has been known to prevent volatile

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aromatic oils from escaping (Column 1, lines 7-19). Swager (US 2154963) also teach preventing rancidity by preserving the oils and volatile elements has been a known problem to prevent (Page 1, lines 7-34). The Examiner notes that to one having ordinary skill in the art of coffee grinding, it would have been obvious to have applied the appropriate processing conditions (time, temperature and velocity to name a few) to produce an acceptable product. Additionally, it would have been well within the skill of one having ordinary skill in the art of preparing coffee grind to provide acceptable coffee grind as compared with other methods. It would have been obvious to the ordinarily skilled artisan, irrespective of the device used, to ensure that the ground coffee is made to a standard that would have been acceptable by the consumer

The art has also recognized preventing overheating of the coffee beans results in the beans being charred which degraded the flavor, as disclosed on column 1, lines 36-47 of Sivetz (US 3964175). Sivetz also teaches using a fluidized bed to roast the coffee, just like Schytil. Dantzig also recognized improving on the rancid flavor of the roasted coffee which results from the removal of coffee oil (page 1, left hand column, lines 22-30). Therefore the art has recognized fluidizing coffee beans to roast coffee, and to prevent the charred or rancid flavor that results during heating of the coffee bean. Therefore applicant's declaration of unexpected and surprising results is not persuasive. In addition, applicant's assertion of the roasting step to be more complex than drying agricultural products is also not persuasive. In addition to the prior art, conditions to achieve a "properly" roasted coffee bean by fluidizing the bean using heated air has been recognized in the art, therefore the particular conditions to achieve the particular properties and flavor in the roasted and ground coffee bean would have been an obvious matter of routine experimentation for the ordinarily skilled artisan.

The assertion in the declaration that conventional methods of preparing coffee using a first step of roasting and a second step of grinding is not persuasive in light of the referenced prior art that teaches the simultaneous roasting and grinding of green coffee beans. Regarding using a vortex grinding apparatus for roasting and grinding coffee, it is noted that Polifka provides motivation to the ordinary skilled artisan in paragraphs 0042 and 0044 on pages 6 and 7 of the reference. Polifka teaches that "practical applications which include, but are not limited to, the grinding, drying and pasteurization of

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animal or agricultural products..." Further Polifka teaches that agricultural products include all types of grains can be ground into a flour and dried in the same operation and herbs can be ground into a fine powder. The prior art, as applied in paragraph 4, above teach that it has been well known to fluidize coffee beans wherein if the velocity is high enough, a grinding action will occur. The prior art also teaches that simultaneous roasting and grinding has been well known in the art. Therefore, it would have been obvious, based on these teachings to use the system of Polifka for simultaneously roasting and grinding coffee beans.

The declaration further asserts that conventional methods using continuous roasters and whole green beans must **generally** be roasted at temperatures above 550°F and at least about 2 minutes. This is not persuasive since Schytill teaches roasting at less than 550°F for less than 2 minutes (column 3, lines 53-56). Also, applicants' arguments are not commensurate in scope with the claims. The time for roasting has not been claimed.

15. It is noted that applicants' arguments are commensurate with the declaration and thus the examiner refers applicants to the discussion above in paragraph 14.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. 5436023 discloses grinding which results in the heating and thus roasting of coffee beans. U.S. 6,051,266 discloses a method for roasting coffee beans using a heated air fluidized bed and further comprising a discharging valve. U.S. 3,120,439 discloses a roasting and grinding process for the production of dry coffee extract and further comprising a collection chamber and a valve to control the discharge of the extract. U.S. 4,193,758 discloses a method for cooking, roasting and drying a product using a granular bed of heat transfer material in a rotating chamber and further comprises a recycle stream to continuously repeat the cycle.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to VIREN THAKUR whose telephone number is (571)272-6694. The examiner can normally be reached on Monday through Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571)272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/V. T./

Examiner, Art Unit 1794

/Steve Weinstein/

Primary Examiner, Art Unit 1794